

Prepared for

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**Economic Impact of
Alaska Aerospace Development Corporation
on the Kodiak Island Borough and the State of Alaska**

MAY 2006

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Executive Summary

Alaska Aerospace Development Corporation (AADC) functions as an important producer of high wage jobs in Kodiak, counterbalancing declines in other industries.

- Wages paid by AADC and additional jobs created by AADC spending displaced reductions from other industries; without AADC, real earnings in Kodiak would have dropped by more than 9 percent in 2005.
- AADC Kodiak Launch Complex (KLC) average monthly earnings of \$5,120 are nearly double the Borough average of \$2,771.
- The Kodiak Island Borough lost 404 jobs from 2000 through 2005 and the average annual unemployment rate increased from 8.1 percent to 8.4 percent. AADC Kodiak Launch Complex jobs dampened the rise in lost jobs and unemployment.

The Kodiak Launch Complex creates 45 direct and 72 indirect jobs in Kodiak.

- AADC employs an average of 45 full-time equivalent (FTE) employees and contract workers at the Kodiak Launch Complex. In all, 74 permanent and temporary workers were employed on-site in 2005.
- Support services for the Kodiak Launch Complex create an additional 72 jobs in the Kodiak economy.

AADC has a significant, positive impact on the Kodiak economy through local purchases of goods and services.

- AADC uses local vendors for about 25 percent of its purchases of goods and services, spending \$6.7 million with 82 Kodiak-area businesses in 2005, an increase of 12 percent from 2004.
- AADC spends \$7 million with other Alaska vendors, portions of which flow through the Kodiak economy.
- AADC and its launch customers spend an estimated \$1.9 million on travel and hospitality during launch operations, including 480 trips to Kodiak and 7,000 room nights.

AADC spending has an overall impact of \$24 million on the Kodiak economy.

- Direct impact of AADC spending for jobs and services – \$8.7 million – multiplies in the Kodiak economy approximately 2.5 times.
- In 2005, AADC impact totaled \$21.2 million in purchases, travel, and hospitality plus \$3.2 million in payroll, for an overall impact of \$24.4 million.

AADC creates 154 direct, indirect and induced jobs in Alaska

- AADC's 59 direct jobs create an additional 95 indirect and induced jobs, supporting 300 people in Alaska.

AADC wages are higher than the Kodiak and Alaska averages

- KLC wages average \$5,120 per month, compared to a statewide average of \$3,251 and a Kodiak Island Borough average of \$2,771.

Introduction

Alaska Aerospace Development Corporation (AADC) initiated this independent analysis by Van Wyhe Rogers Group, LLC, and Information Insights, Inc. of the economic effect on the Kodiak area from the construction and ongoing operations of the Kodiak Launch Complex. Brian Rogers served as project director; Bobby Wilken was responsible for data collection and analysis.

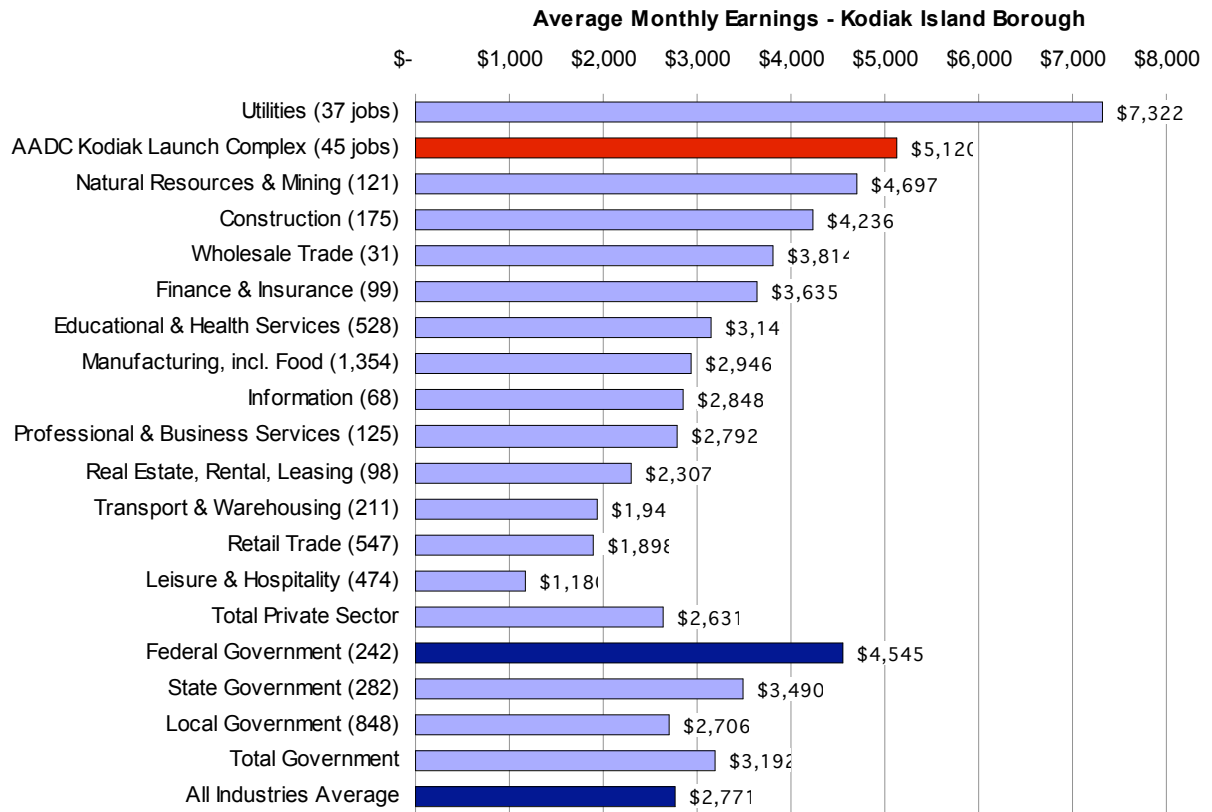
Van Wyhe Rogers Group and Information Insights used local data where available, supplemented by comparable state and national data. AADC provided a complete list of all calendar year 2005 purchases and aggregate data from payroll reports. Additional payroll and employment data came from the Alaska Department of Labor and Workforce Development (DOLWD). We used IMPLAN Professional economic modeling software to analyze data and estimate spending and employment impacts. The numbers reported here differ somewhat from earlier reports by AADC due to reclassification of purchases. In our analysis of AADC spending impacts, we include purchases from those Kodiak-based businesses that have non-Kodiak invoice addresses and whose services are primarily provided in Kodiak.

AADC Employment and Payroll

In 2005, AADC employed an average of 45 full-time equivalent (FTE) workers in Kodiak, with a total Kodiak payroll of \$4,892,331. This included 15 positions directly hired by AADC and an average of 30 positions with Brechan Enterprises, Inc., AADC's primary construction contractor in Kodiak. In 2005, AADC also employed 14 people at its Anchorage office, which had a separate payroll of \$1,563,513.

In addition, AADC spending on support services and other local purchases created 72 indirect jobs in Kodiak in 2005, bringing the total number of local jobs generated by the Kodiak Launch Center to 117.

AADC Kodiak Launch Complex employees are among the highest paid workers in Kodiak, with average monthly earnings of \$5,120, nearly double the Kodiak average, as shown in Figure 1. However, the average monthly earnings of AADC workers fell from \$5,580 in 2004, a reduction of eight percent. It is important to note that people who make their living by fishing – a significant industry in Kodiak – are not represented in Alaska Department of Labor and Workforce Development wage data because they are not covered by unemployment insurance.

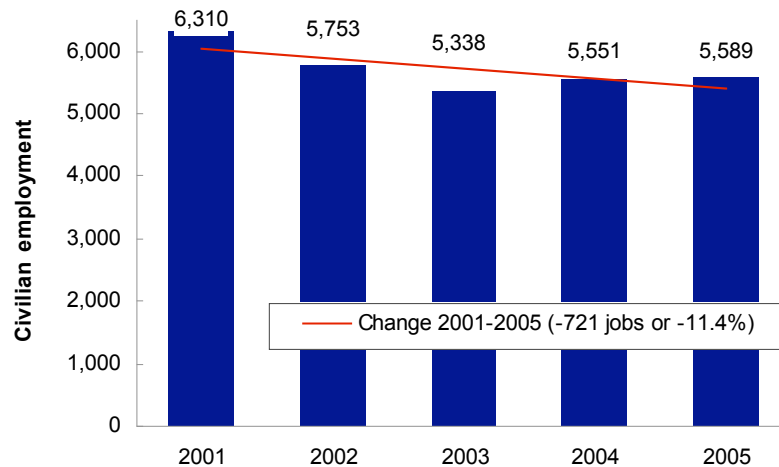


Source: AADC; Alaska Department of Labor and Workforce Development (preliminary data for second quarter 2005)

Figure 1: Kodiak Island Borough average monthly earnings¹

The AADC Kodiak Launch Complex added jobs to the Kodiak economy during a period when employment in the area was declining, as shown in Figure 2.

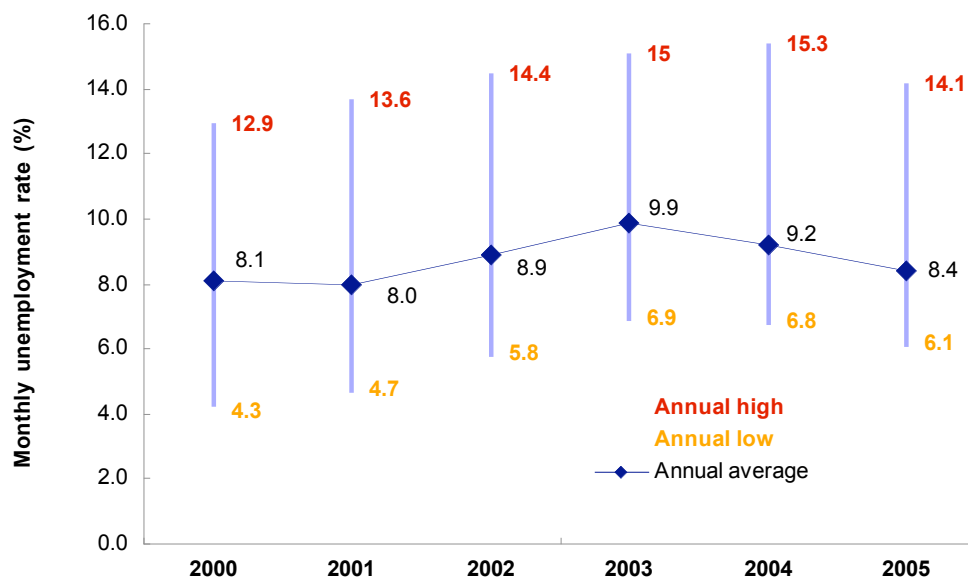
¹ DOLWD data does not include individuals who are not covered by unemployment insurance, which includes fishermen and women who are self-employed.



Source: Alaska DOLWD civilian employment data (excludes US Coast Guard military personnel)

Figure 2: Civilian unemployment in the Kodiak Island Borough

The Alaska DOLWD characterizes Kodiak's unemployment rate as "the most volatile in the state."² Without the 117 direct and indirect jobs generated by the Kodiak Launch Complex, the Kodiak Island Borough's unemployment rate would increase measurably.



Source: Alaska DOLWD civilian employment data (excludes US Coast Guard military personnel)

Figure 3: Kodiak Island Borough unemployment, 2000-2005

² Alaska Department of Labor and Workforce Development, Research and Analysis Section, *Alaska Economic Trends*, September 1999, page 11.

Other DOLWD data show that the Kodiak economy declined prior to AADC's construction and operation of the Kodiak Launch Complex. The Kodiak Island Borough economy has fluctuated over the last eight years, with the overall trend somewhat negative, as shown in Figure 4. Real inflation-adjusted earnings from all industries (public and private sector) fell one percent in the last four years, after falling 3.5 percent the four previous years, for a net loss of about 4.5 percent over the eight-year period.

Real earnings in the private sector fell nearly 4.5 percent over the last four years after dropping 3.6 percent the previous four, for a net loss of 7.9 percent.

Average monthly wages adjusted for inflation have gained over 8 percent in real terms over the same period despite a slight decrease last year. After adjusting for inflation, the average monthly salary in Kodiak increased by 9.5 percent since 2001. Recent increases in average wages may in part be due to the growth of the tourism industry, coupled with continued service sector development, and the reduction in fish processing employment, which is often seasonal and part-time.

Earnings - All Industries			Private Sector Earnings		Monthly Average Wages	
	(\$ Million)	(Real \$ Million - adjusted for inflation to 2004)	(\$ Million)	(Real \$ Million – adjusted for inflation to 2004)	(\$)	(Real \$ - Adjusted for inflation to 2004)
2004	\$179.6	\$179.6	\$130.4	\$130.4	\$2,718	\$2,718
2003	169.7	174.2	122.3	125.6	2,699	2,771
2002	168.1	176.5	123.7	129.9	2,494	2,619
2001	170.1	181.4	127.9	136.4	2,327	2,482
2000	169.0	185.4	128.9	141.4	2,470	2,710
1999	164.0	186.0	125.7	142.5	2,355	2,670
1998	156.0	180.8	118.0	136.8	2,266	2,626
1997	160.0	188.3	120.3	141.6	2,133	2,510
Change 1997 – 2004	12.25%	-4.62%	8.40%	-7.91%	27.43%	8.27%
Change 2001 – 2004	5.58%	-0.99%	1.95%	-4.40%	16.80%	9.51%

Source: Alaska DOLWD annual earnings and monthly wage data. The Bureau of Labor Statistics calculates the Anchorage Consumer Price Index (CPI).

Figure 4: Kodiak Island Borough earnings and wages³

³ 2005 data is not yet available from the Department of Labor and Workforce Development

Alaska and Kodiak Purchases of Goods and Services

AADC's expenditures cover a broad range of contracts, services, equipment, and supplies. AADC's 2005 spending of approximately \$27.3 million in support of its overall mission represents a 35 percent increase over 2004.

In 2005, AADC spent \$11.1 million of this with 249 Alaska vendors, averaging \$45,000 per vendor, and representing 40 percent of all AADC spending.⁴ Of these 249 vendors, 88 provided goods or services in excess of \$5,000. This is an increase in the number of Alaska vendors receiving funds from AADC, but a decrease of in-state spending of \$2.0 million from 2004.

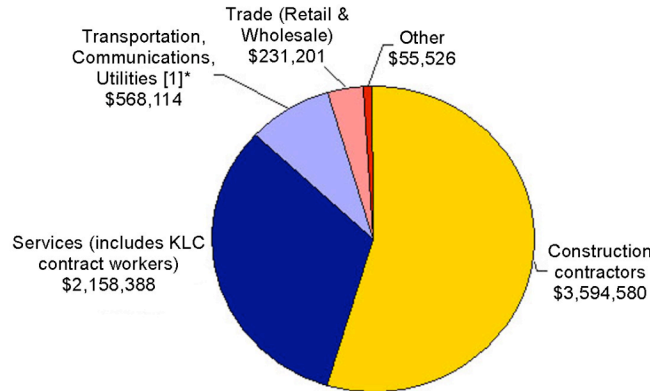
Although AADC's 2005 purchasing in Alaska declined, its 2005 purchasing of goods and services in the Kodiak Island Borough increased by 12 percent over 2004, to a total of \$6.7 million.⁵ This spending was distributed among 82 local businesses throughout the Kodiak economy, for an average of \$82,000 per vendor. Of these 82 vendors, 43 provided goods or services in excess of \$5,000.

AADC also leases \$2.7 million in communications circuits to and from Kodiak; this amount is not included in the Kodiak vendor total. AADC is the primary financial support to a new undersea fiber optic cable that will link Kodiak to mainland Alaska.

After direct payroll, the largest categories of AADC expenditures in the Kodiak Island Borough were construction, services (including lodging and security), and transportation, communications, and utilities (TCU). Figure 5 shows total direct expenditures by spending category.

⁴ Alaska vendors generally include vendors with Alaska operations, even if billing offices may be located outside Alaska. Certain vendors whose primary offices are outside Alaska are excluded from the Alaska vendor list, even though they have substantial Alaska presence, based on the primary location of services provided to AADC. For example, an air freight company whose primary activity for AADC was shipment of items to Alaska was excluded from the Alaska vendor category, even though a portion of the service provided was in Alaska.

⁵ Kodiak vendors generally include vendors with Kodiak operations, even if billing offices may be located outside Kodiak. Certain vendors whose primary offices are outside Kodiak are excluded from the Kodiak vendor list, even though they have substantial Kodiak presence, based on the location of services provided to AADC. For example, a tug and barge company whose primary activity for AADC was shipment of items to Kodiak, was excluded from the Kodiak vendor category, even though a portion of the service provided was in Kodiak.



Sources: AADC, Information Insights⁶

Figure 5: AADC spending in Kodiak by expenditure category, 2005

Launch customers spent \$1,851,622 on travel and hospitality, which includes 480 trips to Kodiak, about 7,000 room nights and meals, and 2,677 days car rental. Not included in these numbers are an unknown number of additional days of lodging and meals, and an unknown number of charter, guide, and tour services, purchased by individuals who traveled to Kodiak for AADC-related business and who added personal travel – hunting, fishing, or other tourist activities – to their AADC-related travel.

Economic Impact of AADC Spending

AADC's total purchases from local vendors do not reflect the full impact of Kodiak Launch Complex spending on the Kodiak economy. After being spent with Kodiak merchants, some of the money is re-spent in Kodiak, while some *leaks* from the local economy. For example, a contractor who earns \$100,000 through construction activity at the Kodiak Launch Center in turn spends this money on wages, materials, equipment, fuel, and a variety of services and supplies. A significant share of this money is spent locally, including most of the contractor's payroll and fuel oil purchases. The contractor makes other day-to-day operational expenditures locally, such as office supplies and equipment, fuel for vehicles, janitorial services, etc. Other purchases are made outside Kodiak, including specialized materials, contractor equipment and other items not available from local vendors. In other words, while some of the original \$100,000 does not re-circulate through the Kodiak economy, much of it does. Furthermore, a portion of this *second-level* expenditure is also spent locally (the contractor's employees buying groceries, for example), which leads to *third-level* expenditures, and so forth.

All of the \$8.6 million in local expenditures made by AADC Kodiak Launch Complex circulates through the economy in this way, though the rate of leakage varies from sector to sector. Expenditures on heavy equipment and parts are likely to leak from the economy faster than money spent on professional or contractual services because the heavy equipment is manufactured elsewhere. The challenge is in measuring the degree of total spending – sometimes termed *output* – that stems from some initial expenditure.

⁶[1] Transportation, Communications and Utilities (TCU) excludes communications spending for leased lines to and from Kodiak.

The U.S. Bureau of Economic Analysis (BEA) publishes multipliers that can be used to estimate total direct and indirect spending impacts.⁷ Because these multipliers are intended to predict total statewide spending rather than local impact, they tend to overstate the impact of Kodiak Launch Complex spending on Kodiak. Information Insights used information from 2004 interviews with key AADC vendors in Kodiak and adjusted BEA data accordingly to come up with an adjusted multiplier of 2.49. This means that the true impact of AADC spending on the Kodiak economy equals nearly two and one-half times the amount of AADC's direct expenditure. Figure 6 demonstrates the effect of this multiplier on a hypothetical expenditure by AADC of \$1 million.

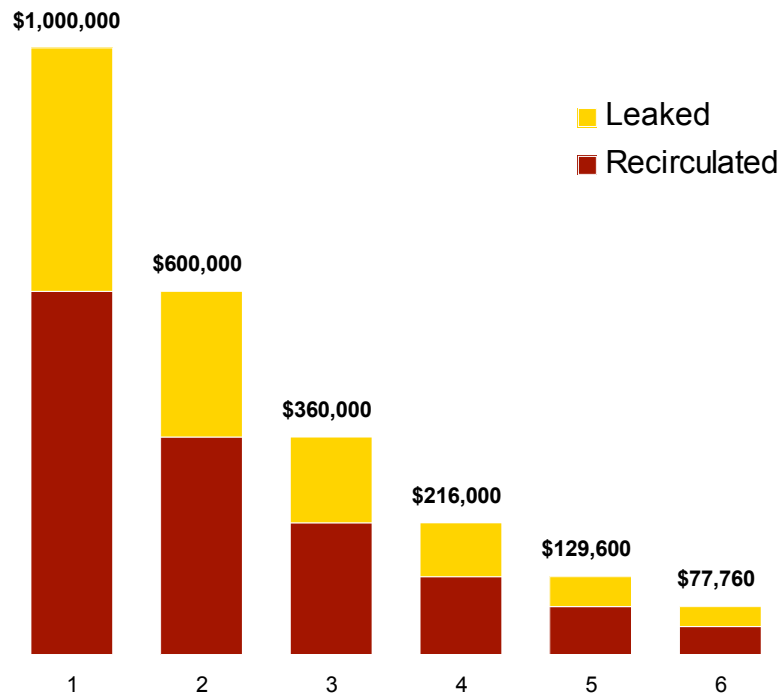


Figure 6: Multiplier effect of each \$1 million spent by AADC in Kodiak

Based on a spending multiplier of 2.49, the effect of AADC spending on local purchases and travel totaled approximately \$21.1 million in 2005. With payroll added, AADC-related spending in Kodiak exceeded \$24.4 million.

Indirect Employment and Earnings Impacts

In addition to 45 direct jobs and \$4.9 million in annual payroll, the AADC Kodiak Launch Complex creates indirect employment throughout Kodiak's support sector. These jobs are created in two ways. First, local spending by AADC on services and supplies creates jobs in the businesses providing those services and supplies. These jobs are termed *indirect* jobs.

⁷ *Regional Multipliers: A User Handbook for the Regional Input-Output System (RIMS II)*, U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, 2002.

Second, spending by Kodiak Launch Complex employees in local stores and with local service providers (banks, doctors, auto repair shops, etc.) creates additional jobs. These are termed *induced* jobs. Commonly, indirect and induced are merged together under the label of *indirect employment*.

Indirect employment (including induced jobs) can be estimated by applying a multiplier to direct employment. In Alaska, employment multipliers are typically in-between 1.5 and 2.5, meaning that the total employment impact of a factory that employs 100 workers is between 150 and 250 jobs. In other words, for every direct job, one-half to one-and-a-half additional jobs are created in the support and service sectors of the economy.

Multipliers can also be applied to earnings. As AADC employees spend their paychecks, new earnings are created.

Calculating multipliers that specifically apply to AADC would require complex econometric modeling of the Kodiak economy that is beyond the scope of this study. However, using standard multipliers developed by the BEA and used in the impact modeling software developed by the Minnesota Implan Group, it is possible to derive reasonable estimates of multiplier effects of AADC employment. Since most employees are Kodiak residents, most of their salaries stay in *and circulate through* the local economy, creating additional jobs and income.

The IMPLAN model indicates a total employment impact of 117 direct and indirect jobs, and an earnings impact created by AADC Kodiak Launch Complex operations of \$6,323,400.

	Direct (Includes on-site contract employees)	Indirect and Induced	Total	Kodiak Total	AADC percent of Kodiak Total
Employment	45	72	117	5,507	2.12%
Payroll	\$4.9	\$1.4	\$6.3	\$179.6	3.51%

Source: AADC and Information Insights

Figure 7: AADC related employment and payroll

Role of AADC in the Kodiak Economy

With an estimate of total AADC-related employment, it is possible to estimate the total population supported by the Kodiak Launch Complex. The Alaska Department of Labor and Workforce Development estimated the 2005 Kodiak Island Borough population at 13,638, with a labor force of 6,034. Thus, for each person in the labor force, there are 2.26 borough residents. The 117 direct, indirect and induced jobs created by AADC's Kodiak Launch Complex support a population of 264, or approximately 2 percent of the borough population.

In 2005, the Kodiak Island Borough economy had a labor force of approximately 6,000, with approximately 5,500 jobs and \$180 million in payroll, excluding uniformed military personnel and self-employed workers (groups usually not included in labor estimates). These estimates are based on 2004 data reported by the DOLWD. With these employment and payroll estimates, it is possible to measure the role of AADC in the economy of Kodiak. In terms of employment, AADC's Kodiak Launch Complex directly and indirectly accounts for nearly 2.1 percent of the Kodiak Island Borough workforce.

	Employment	Earnings (\$ Millions)	Population
Kodiak Island Borough	5,507	\$179.6	13,538
AADC Kodiak Launch Complex (Direct, Indirect and Induced Employment)	117	6.3	264
Percent AADC-Related	2.1%	3.5%	2.0%

Source: AADC, Alaska DOWLD

Figure 8: Role of AADC in the Kodiak economy

Role of AADC in the Alaska Economy

AADC employs 14 full time employees in Anchorage, with a direct payroll of \$1,563,513. These 14 jobs, and the 23 indirect jobs created by AADC, in addition to the 117 direct and indirect jobs created in Kodiak, generate a total of 154 jobs in Alaska.

The 2005 population of Alaska was estimated by the DOLWD to be 663,661. The Alaska economy had a labor force of approximately 340,000 with approximately 316,000 jobs and \$11.6 billion in payroll (excluding the groups usually not included in labor estimates) according to Alaska DOLWD estimates. For each person in the Alaska labor force, there are 1.95 residents. The 154 jobs created by AADC in Alaska support a population of 300 in the state.

	Employment	Earnings (\$ Millions)	Population
Alaska	316,289	\$11,637.9	663,661
AADC Alaska Employment (Direct, Indirect and Induced Employment)	154	8.0	300
Percent AADC-Related	0.05%	0.07%	0.05%

Source: AADC; Alaska DOWLD

Figure 9: Role of AADC in the Alaska economy

AADC's Kodiak Launch Complex wages are among the state's highest, at an average of \$5,120 per month, and are 57 percent higher than the statewide average among all industries of \$3,251. Only natural resources and mining wages, including oil and gas, are higher average wages, as shown in Figure 10.

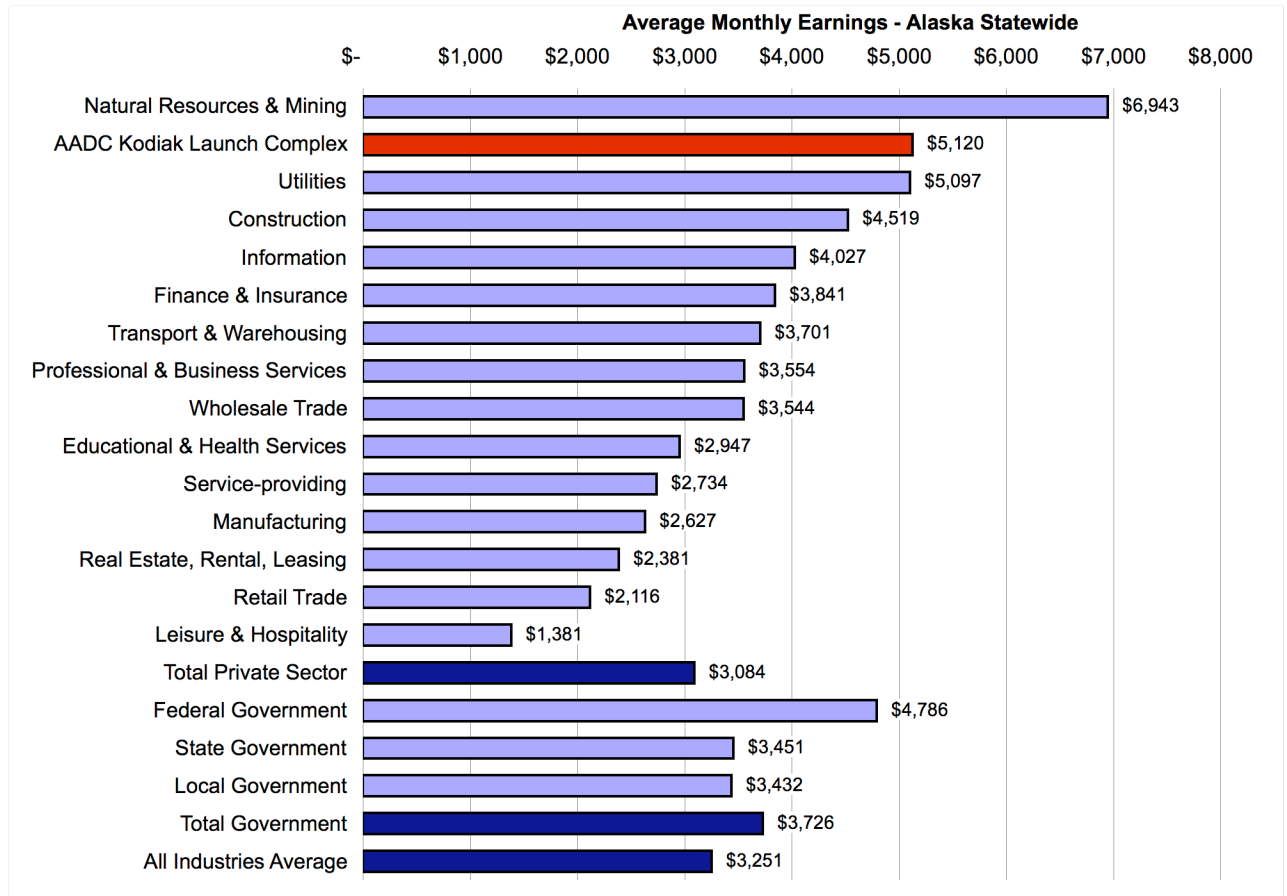


Figure 10: State of Alaska average monthly earnings⁸

⁸ DOLWD statewide data does not include individuals who are not covered by unemployment insurance